



8165 E Kaiser Blvd.
Anaheim, CA 92808
www.lightlaboratory.com

Report No: L062014306



Report No: L062014306

Issue Date: 7/24/2020

Report Prepared For: Leadsun Inc
1920 South Archibald Ave Unit I Ontario CA 91761

Model Number: RS30-T2/30W/5000K

Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:

IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with 1.36A constant current source.

Sample Arrival Date: 7/6/20

Date of Tests: 7/20/20 - 7/24/20

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	1/9/21
BK PRECISION	1747	PS-DC04	1/10/21
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/21
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

General Information

Manufacturer:	Leadsun Inc
Model Number:	RS30-T2/30W/5000K
Driver Model Number:	N/A

Test Summary

Total Lumens:	5025.30
Efficacy:	167.47
Color Redering Index:	72.6
Correlated Color Temperature:	4980
Input Voltage (VDC):	22.06
Input Current (Amp):	1.3602
Input Power (W):	30.01
Input Power Factor:	1.0000
Current ATHD (%):	N/A

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:00

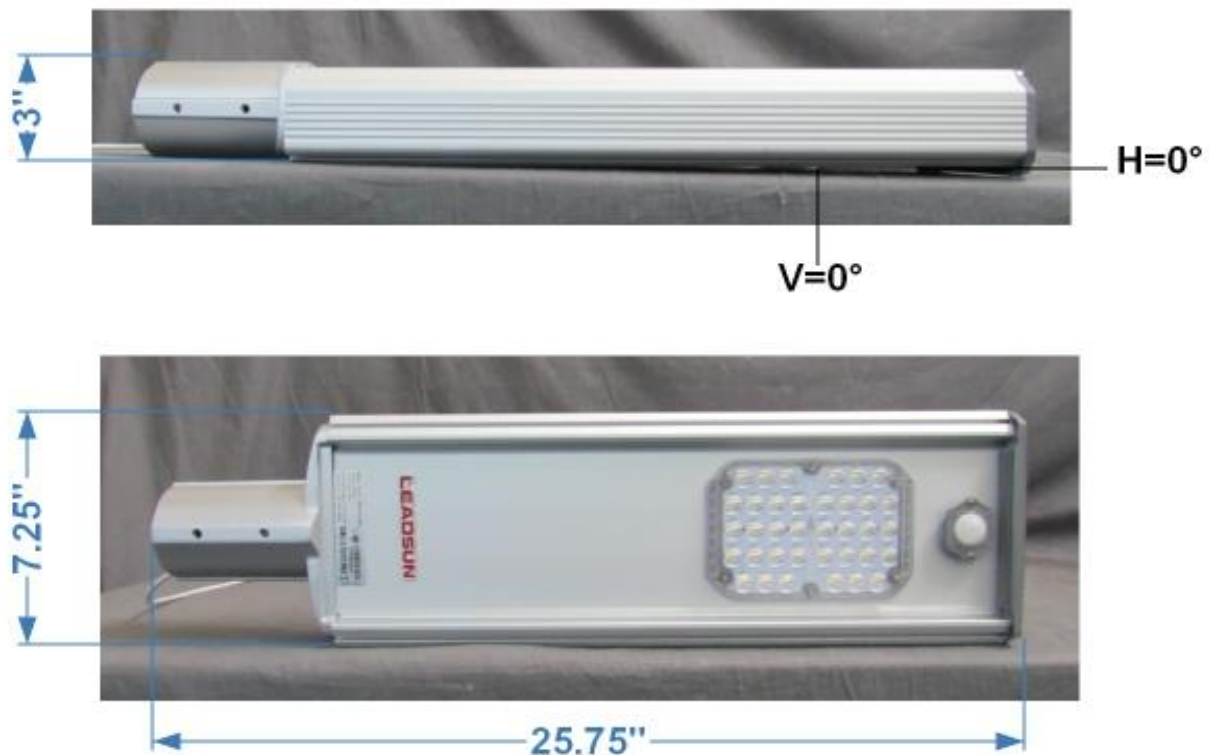
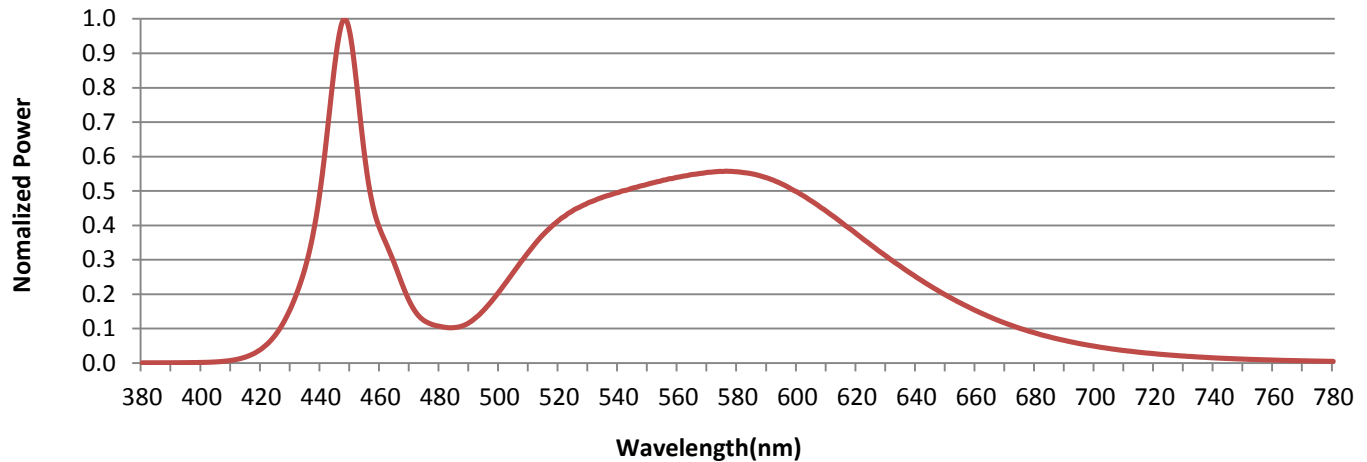


FIG. 1 LUMINAIRE

Colorimetry Test Results

Spectral Power Distribution



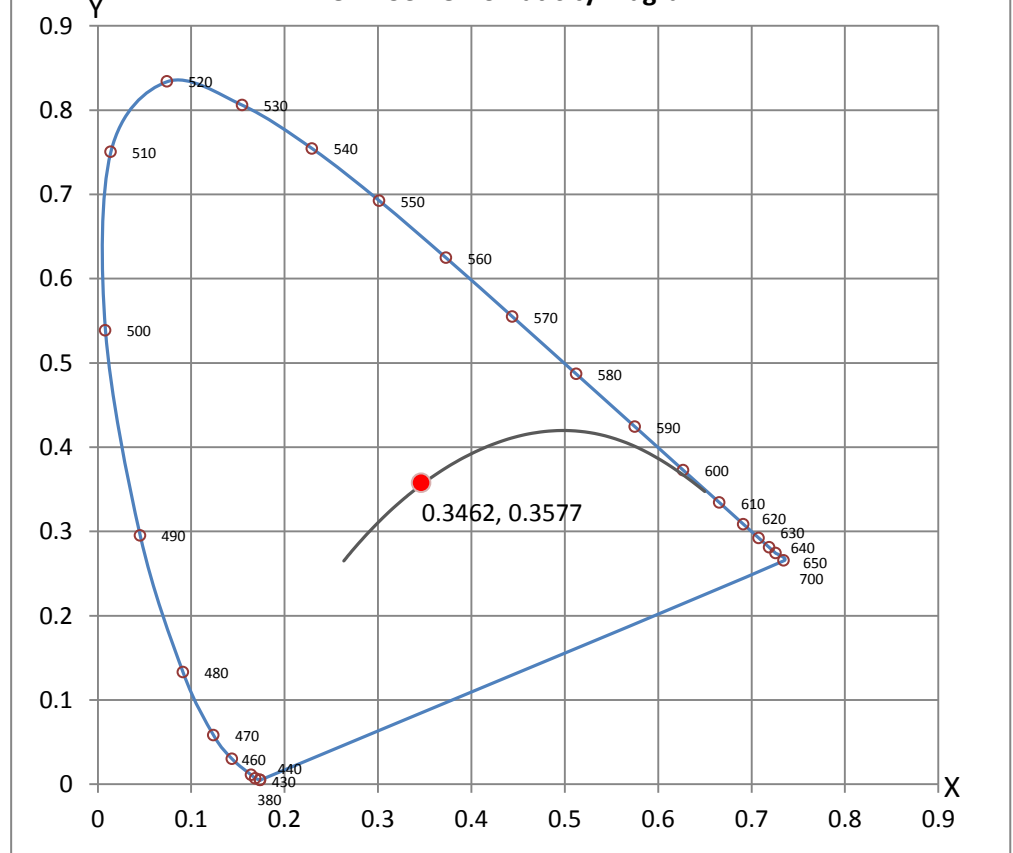
CRI & CCT

x	0.3462
y	0.3577
u'	0.2098
v'	0.4878
CRI	72.60
CCT	4980
Duv	0.00261

R Values

R1	69.47
R2	77.62
R3	83.45
R4	72.72
R5	69.86
R6	68.83
R7	82.31
R8	56.24
R9	-30.99
R10	46.71
R11	69.27
R12	40.26
R13	70.74
R14	90.32
R15	63.71

CIE 1931 Chromaticity Diagram





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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 13*



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Photometric Test Report

IES ROAD REPORT

PHOTOMETRIC FILENAME : L062014306.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L062014306
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 7/24/2020
[MANUFAC] Leadsun Inc
[LUMCAT] RS30-T2/30W/5000K
[LUMINAIRE] 30W 5000K luminaire with 36 chips and T2 lens
[BALLASTCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[POWER SUPPLY] 1.36A CONSTANT CURRENT SOURCE
[INPUT] 22.06VDC, 30.01W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5025
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	167
Total Luminaire Watts	30.01
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	3181
Maximum Candela Angle	75H 55V
Maximum Candela (<90 Degrees Vertical)	3181
Maximum Candela Angle (<90 Degrees Vertical)	75H 55V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	208 (4.1% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : L062014306.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	726.7	N.A.	14.5
FM - Front-Medium (30-60)	1884.9	N.A.	37.5
FH - Front-High (60-80)	546.0	N.A.	10.9
FVH - Front-Very High (80-90)	15.1	N.A.	0.3
BL - Back-Low (0-30)	481.6	N.A.	9.6
BM - Back-Medium (30-60)	972.8	N.A.	19.4
BH - Back-High (60-80)	383.4	N.A.	7.6
BVH - Back-Very High (80-90)	14.7	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	5025.2	N.A.	100.0
BUG Rating	B1-U0-G1		

ZONAL LUMEN SUMMARY

Zone	%
0-20	10.9
0-30	24
0-40	41.7
0-60	80.9
0-80	99.4
0-90	100
10-90	97.2
20-40	30.8
20-50	50.9
40-70	53.3
60-80	18.5
70-80	4.4
80-90	0.6
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

IES ROAD REPORT
PHOTOMETRIC FILENAME : L062014306.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0.0	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486
5.0	1594	1597	1598	1593	1586	1584	1579	1571	1561	1552
10.0	1664	1664	1666	1659	1648	1643	1640	1631	1612	1600
15.0	1712	1713	1714	1709	1698	1691	1687	1676	1660	1650
20.0	1820	1820	1818	1808	1791	1774	1764	1753	1740	1732
25.0	1924	1924	1924	1922	1915	1904	1896	1882	1868	1849
30.0	1821	1825	1839	1865	1893	1923	1957	1992	2017	2027
35.0	1545	1552	1574	1610	1658	1729	1818	1925	2039	2131
37.5	1418	1426	1448	1483	1532	1602	1693	1820	1968	2104
40.0	1238	1248	1277	1326	1404	1492	1589	1703	1846	2023
42.5	988	997	1031	1090	1190	1314	1452	1592	1749	1919
45.0	749	755	777	825	916	1053	1235	1452	1686	1849
47.5	592	595	603	631	669	750	940	1197	1525	1791
50.0	484	485	494	508	532	584	657	870	1226	1650
52.5	394	396	403	413	428	451	495	638	904	1400
55.0	263	269	289	316	340	355	388	445	614	985
57.5	142	148	166	200	242	274	301	344	545	614
60.0	109	110	112	118	148	194	230	267	313	521
62.5	100	101	103	103	103	126	165	194	228	316
65.0	90	91	92	94	95	99	118	138	162	207
67.5	80	81	83	85	86	89	96	106	124	155
70.0	70	71	73	75	78	81	87	93	102	122
72.5	70	66	63	66	68	72	77	83	88	98
75.0	76	63	55	56	58	61	65	71	75	78
77.5	56	47	44	44	46	50	54	58	61	64
80.0	36	32	32	32	34	37	40	43	45	48
85.0	5	5	6	6	7	7	8	10	11	11
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0.0	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486
5.0	1545	1538	1530	1526	1512	1502	1494	1483	1477	1464
10.0	1588	1576	1563	1549	1534	1520	1507	1490	1475	1452
15.0	1637	1620	1608	1589	1571	1553	1535	1508	1480	1451
20.0	1720	1700	1688	1658	1637	1613	1588	1553	1511	1475
25.0	1818	1792	1777	1745	1719	1689	1655	1609	1559	1503
30.0	2002	1959	1920	1874	1838	1806	1761	1698	1632	1554
35.0	2193	2224	2193	2100	2027	1966	1902	1827	1740	1636
37.5	2237	2320	2338	2266	2147	2058	1978	1897	1797	1680
40.0	2217	2383	2466	2447	2309	2168	2064	1970	1862	1741
42.5	2138	2395	2573	2613	2532	2305	2164	2052	1930	1794
45.0	2038	2301	2608	2705	2720	2521	2300	2159	2019	1865
47.5	1995	2232	2575	2775	2905	2733	2431	2257	2093	1913
50.0	1968	2182	2498	2773	3082	2824	2594	2320	2129	1948
52.5	1909	2182	2373	2733	3029	3043	2744	2368	2160	1965
55.0	1614	2134	2324	2575	2885	3181	2814	2423	2154	1958
57.5	1206	1890	2306	2438	2767	3179	2828	2523	2157	1946
60.0	834	1570	2153	2363	2662	2904	2826	2651	2158	1924
62.5	560	1146	1869	2272	2386	2845	2667	2583	2073	1873
65.0	510	840	1482	2009	2055	2326	2571	2394	1962	1764
67.5	232	527	980	1512	1697	1781	2084	1973	1704	1541

IES ROAD REPORT
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CANDELA TABULATION - (Cont.)

70.0	159	261	504	952	1249	1312	1472	1484	1342	1225
72.5	126	178	277	450	705	811	910	973	874	816
75.0	92	115	149	196	282	423	516	490	443	432
77.5	64	78	101	123	167	256	318	267	263	256
80.0	47	57	77	103	147	195	208	164	158	144
85.0	13	16	21	30	31	28	28	29	28	26
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0.0	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486
5.0	1452	1444	1437	1425	1414	1407	1397	1382	1373	1367
10.0	1435	1415	1399	1375	1356	1336	1318	1294	1278	1262
15.0	1424	1395	1364	1326	1292	1256	1225	1189	1162	1136
20.0	1431	1386	1335	1285	1236	1183	1135	1087	1046	1010
25.0	1439	1378	1307	1235	1162	1090	1026	966	920	881
30.0	1480	1391	1294	1188	1089	989	912	856	808	775
35.0	1535	1417	1277	1145	1014	903	815	760	721	689
37.5	1565	1431	1287	1132	987	865	769	714	679	650
40.0	1609	1460	1286	1100	941	815	726	675	642	611
42.5	1642	1474	1292	1087	910	769	685	639	602	575
45.0	1678	1491	1286	1073	881	739	676	604	562	532
47.5	1738	1519	1292	1054	847	699	660	565	520	497
50.0	1766	1538	1297	1038	814	681	576	523	487	465
52.5	1758	1533	1282	1016	783	669	539	486	453	436
55.0	1758	1483	1215	941	720	646	503	453	424	414
57.5	1721	1466	1184	896	690	521	459	421	397	386
60.0	1714	1444	1131	845	649	464	410	388	371	352
62.5	1675	1407	1110	813	649	422	370	349	337	304
65.0	1617	1386	1073	784	535	399	337	308	287	235
67.5	1431	1217	957	707	490	366	311	276	234	171
70.0	1110	908	735	570	417	302	263	234	185	126
72.5	735	607	500	359	254	209	184	178	141	96
75.0	404	376	281	167	148	149	113	98	89	74
77.5	237	217	131	75	76	75	66	63	61	58
80.0	120	98	65	54	53	50	46	45	44	44
85.0	24	23	23	22	21	20	19	18	18	18
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles **Horizontal Angles**

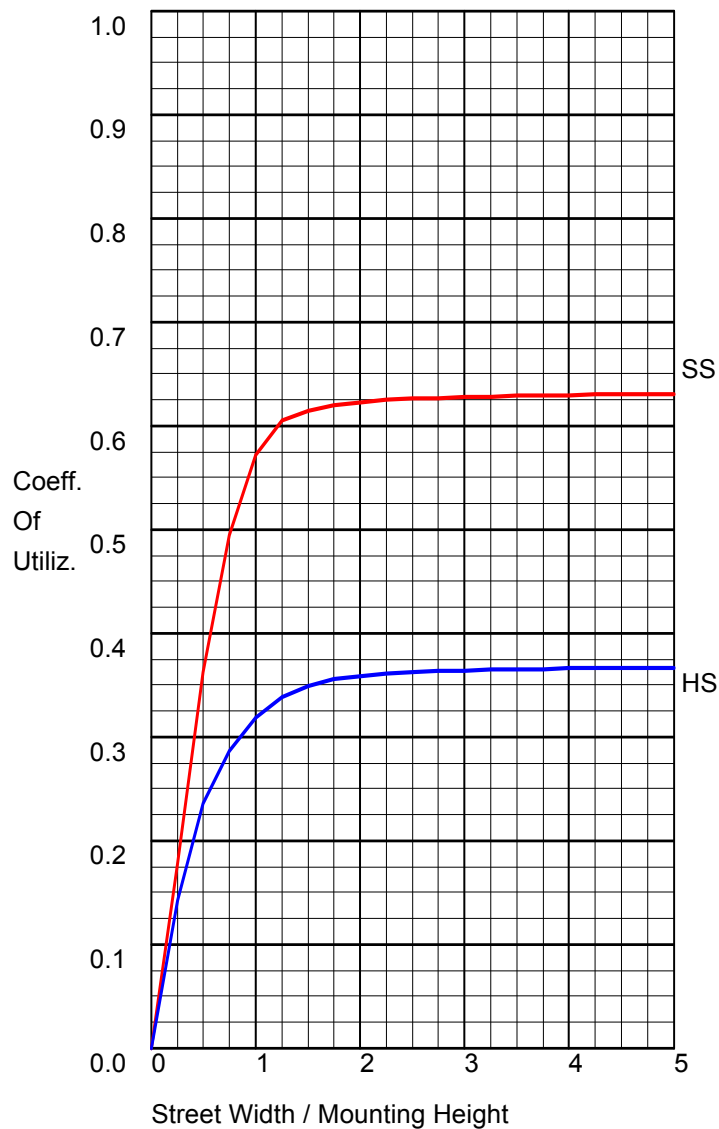
	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	1486	1486	1486	1486	1486	1486	1486
5.0	1362	1359	1354	1347	1342	1339	1338
10.0	1251	1239	1226	1215	1209	1204	1201
15.0	1116	1093	1074	1061	1052	1046	1044
20.0	983	955	933	920	911	905	902
25.0	851	831	814	805	800	795	791
30.0	748	730	717	706	698	694	692
35.0	662	645	633	624	616	614	613
37.5	626	610	599	592	587	585	584
40.0	586	572	562	557	553	552	551
42.5	549	535	526	523	523	522	521
45.0	511	503	497	495	493	492	491
47.5	482	473	468	466	466	466	466

IES ROAD REPORT
PHOTOMETRIC FILENAME : L062014306.IES

CANDELA TABULATION - (Cont.)

50.0	453	447	446	447	449	448	448
52.5	429	429	429	419	398	379	373
55.0	408	404	372	326	295	283	278
57.5	371	328	276	241	211	190	185
60.0	308	247	193	155	148	146	147
62.5	237	167	130	127	124	122	121
65.0	157	115	114	113	108	105	104
67.5	110	101	102	101	99	98	99
70.0	89	89	92	92	92	93	93
72.5	82	79	81	83	86	89	87
75.0	73	71	70	72	78	84	80
77.5	60	61	60	59	65	67	65
80.0	47	51	50	49	53	53	50
85.0	19	20	22	24	24	24	23
90.0	0	0	0	0	0	0	0

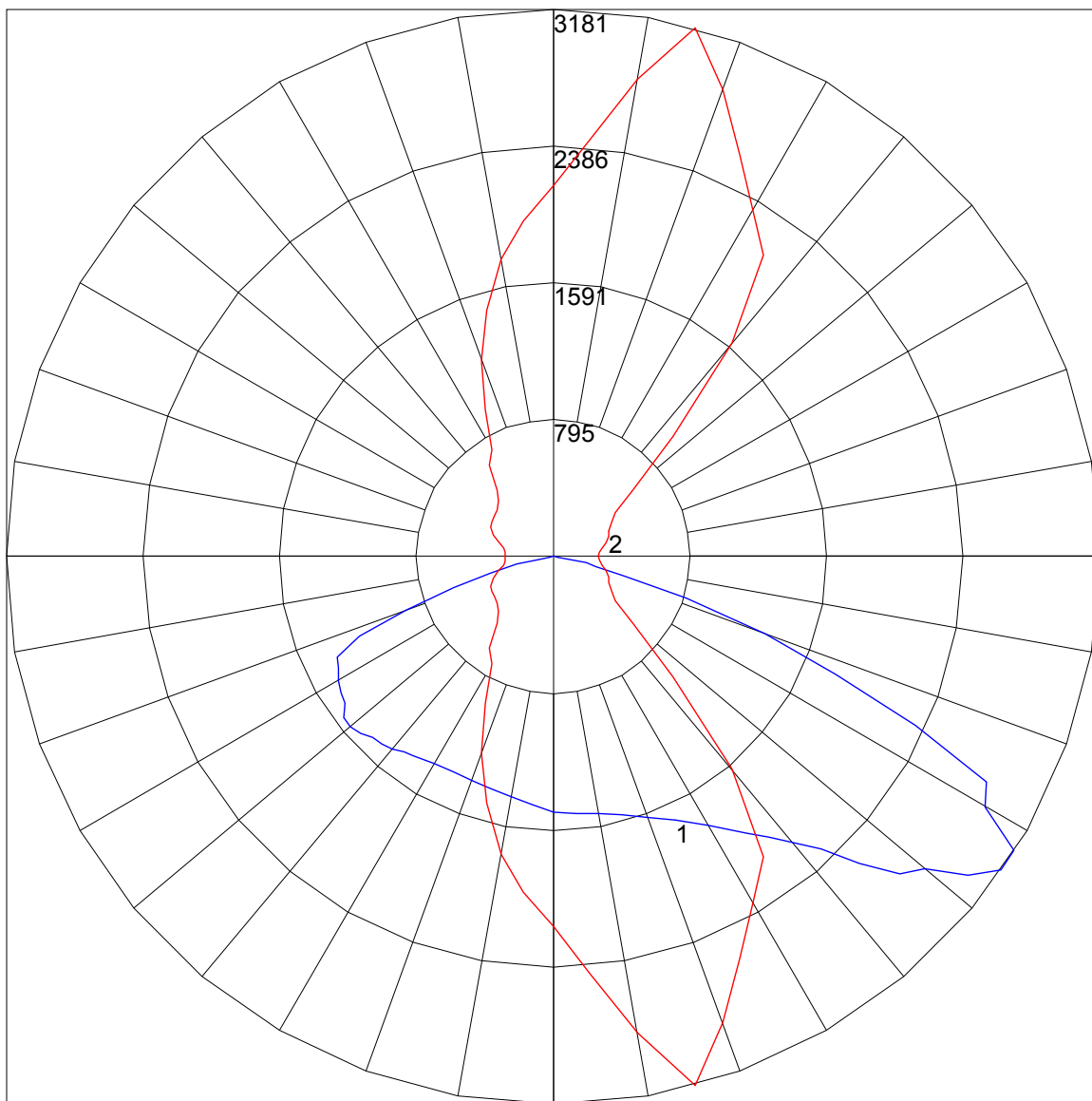
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

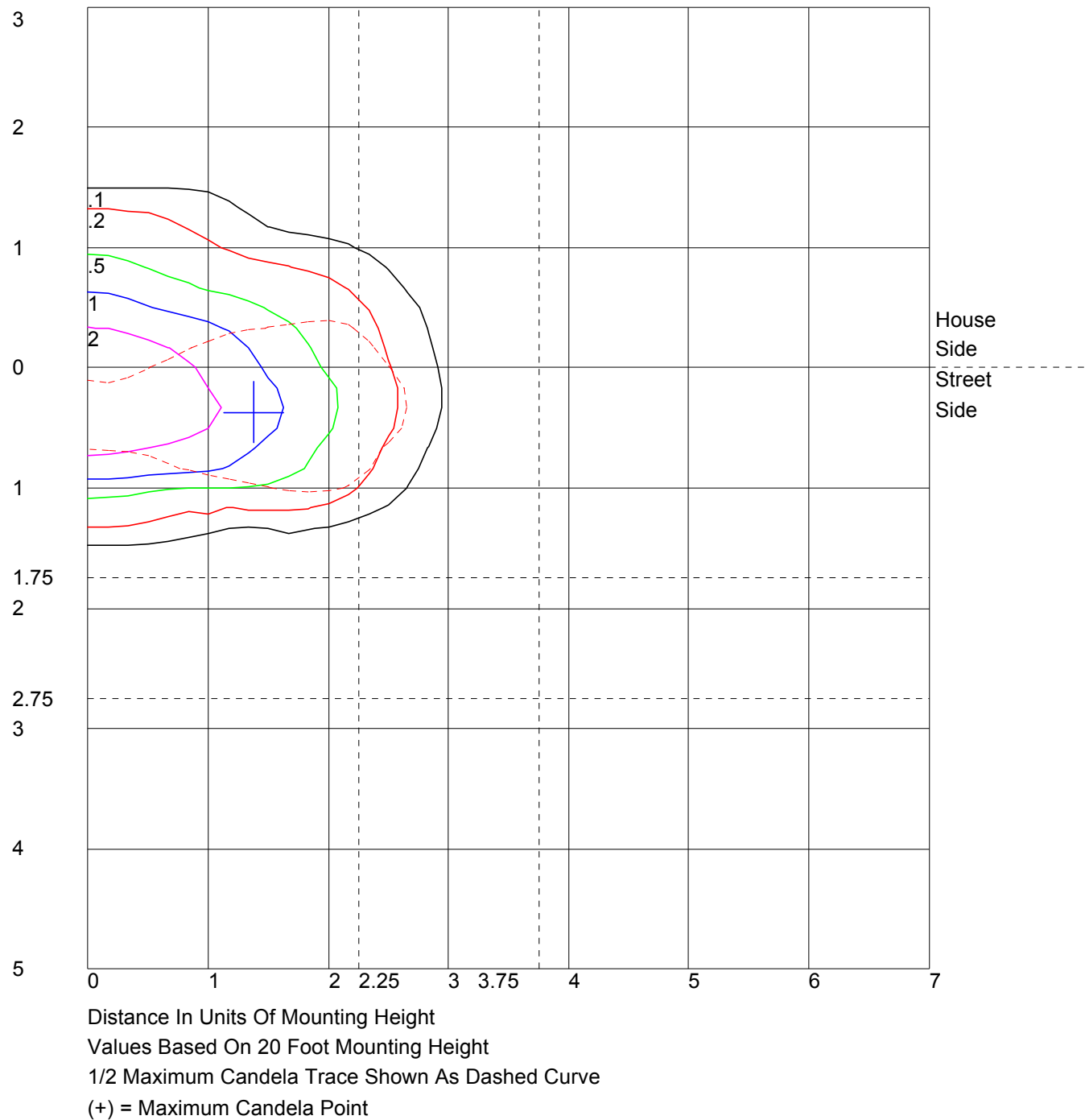
	Lumens	Percent Of Luminaire
Downward Street Side	3172.8	63.1
Downward House Side	1852.5	36.9
Downward Total	5025.3	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	5025.3	100.0

POLAR GRAPH

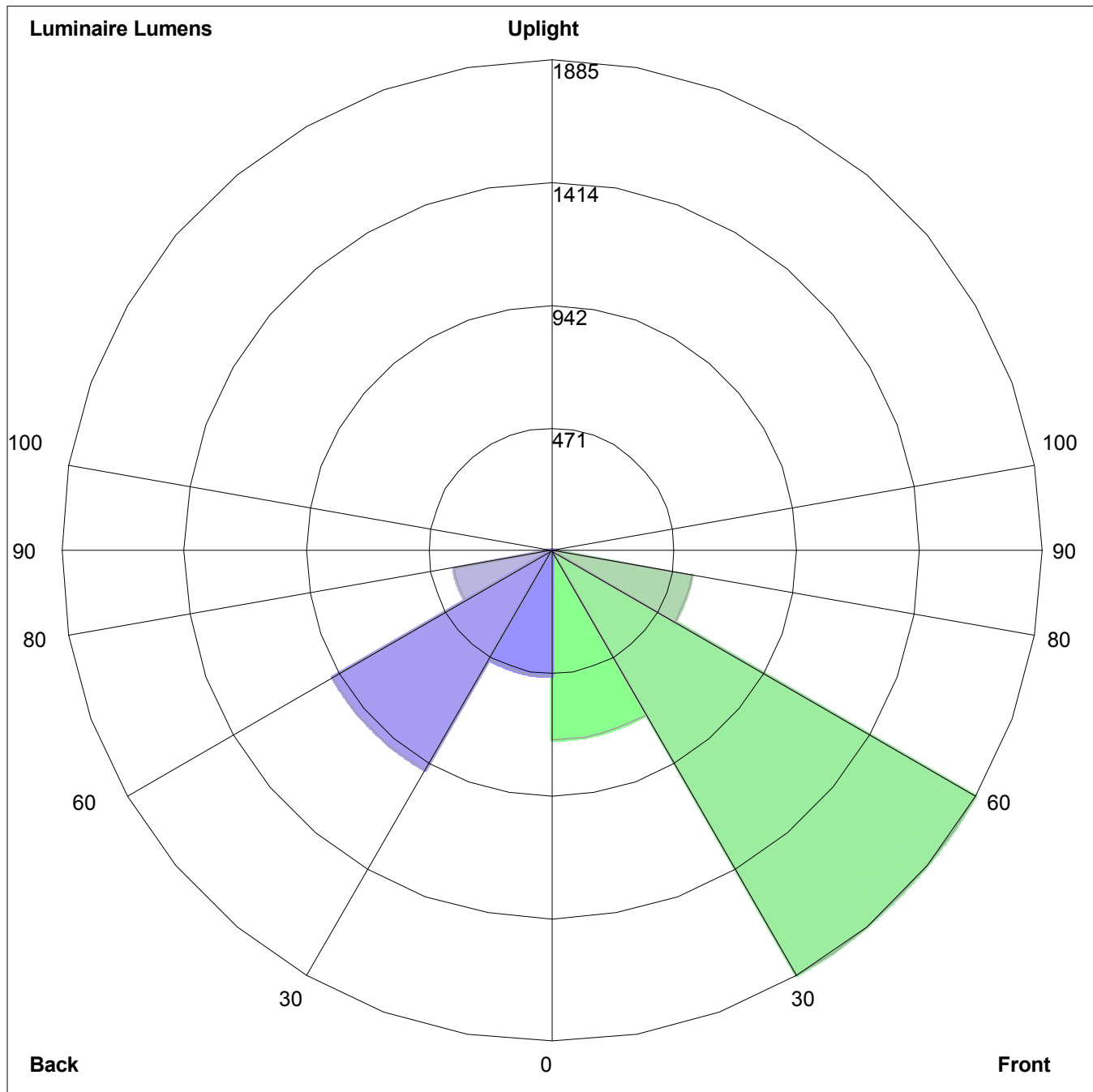


Maximum Candela = 3181 Located At Horizontal Angle = 75, Vertical Angle = 55
1 - Vertical Plane Through Horizontal Angles (75 - 255) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (55) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=726.7, Medium=1884.9, High=546.0, Very High=15.1
Back: Low=481.6, Medium=972.8, High=383.4, Very High=14.7
Uplight: Low=0.0, High=0.0

BUG Rating : B1-U0-G1